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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/774,943

02/09/2004

Piet Dewaele

226366

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23460

7590

01/05/2010

LEYDIG VOIT & MAYER, LTD  
TWO PRUDENTIAL PLAZA, SUITE 4900  
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CHICAGO, IL 60601-6731

EXAMINER

SETH, MANAV

ART UNIT

PAPER NUMBER

2624

NOTIFICATION DATE

DELIVERY MODE

01/05/2010

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/774,943	<b>Applicant(s)</b> DEWAELE, PIET	
	<b>Examiner</b> MANAV SETH	<b>Art Unit</b> 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 14 September 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-13, 15 and 26-39 is/are pending in the application.
- 4a) Of the above claim(s) 12, 13, 26, 27 and 38-40 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 7, 15, 28-30 and 33 is/are rejected.
- 7) ☒ Claim(s) 5, 6, 8-11, 31, 32 and 34-37 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                        | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Amendment***

1. The amendment received on September 14, 2009 has been entered in full.
2. Applicant's arguments and amendments to the claims have been entered and based on the amendments, claim objections and claim rejections under 35 USC 101 and 35 USC 112 on the respective claims have been withdrawn.
3. Applicant's amendment to the specification has been entered and based on the amendment objection on the specification has been withdrawn.
4. Applicant's arguments with respect to rejected claims as presented in the amendment filed have been fully considered but are moot in view of new ground(s) of rejection(s).

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-4, 7, 15, 28-30 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Raby, U.S. Patent No. 7,033,327, and further in view of Albertelli et al., U.S. Patent No. 7,068,856.

Regarding claim 1, Raby discloses calculating, via a medical computer system, mathematical moments of said digital signal representation relative to different reference entities

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(col. 5, lines 21-22 – medical computer; col. 7, lines 36-50 – different entities refer to each axis line; col. 3, lines 19-27 – determining the long axis of an object comprises....**calculating the moment of the object about each axis line**); and,

obtaining, via the medical computer system, a decision on the orientation of said radiographic image on the basis of an extreme value comprising one of a maximum and a minimum of the calculated moments (col. 3, lines 19-30; col. 8, lines 1-4 – determining the long axis of an object comprises.....**selecting the axis line that corresponds to the smallest calculated moment**; col. 10, lines 62-65 – **the long axis may be used to determine the orientation of a tooth**), thus the orientation of the object (teeth) is determined on the basis of smallest (minimum) of the calculated moments.

Examiner further asserts that use of this method in the field of radiographic imaging is merely an intended use of this method.

Raby discloses determining the orientation of the object in the image on the basis of the calculated moments but does not explicitly teach determining the orientation of the image itself using the same method. However, Albertelli discloses that the same method used for determining the orientation of the object using moments can also be used to determine the orientation of the image itself (col. 2, lines 1-21). Therefore, it would have been obvious for one of ordinary skill in the art at the time of invention was made to combine Albertelli's teachings with that of Raby. One of ordinary skill in the art at the time of invention was made would have been motivated to combine Albertelli's teachings with that of Raby because both references are directed to same field of art and Albertelli's method that uses the similar method of using the same calculated moments to determine the orientation of the object and the image would simply add the benefits

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of reduced extra computations and would take less time for producing the required results and further adding, it would further add Raby's invention with explicit teachings of one-dimensional to three dimensional image processing.

Regarding claim 2, the combined invention of Raby and Albertelli discloses said moment is a Cartesian moment which moment weighs the digital signal representation by a function of at least one spatial coordinate x or y (Raby – figures 4 and 5, col. 5, line 41 – col. 7, line 50; See Albertelli – figure 2, col. 3, lines 10-67).

Regarding claim 3, the combined invention of Raby and Albertelli discloses said moment is calculated with respect to a Cartesian co-ordinate system the axes of which are substantially parallel to the boundaries of said image (see Albertelli - figure 2).

Regarding claim 4, the combined invention of Raby and Albertelli discloses wherein said moments are two-dimensional moments (see Albertelli – figure 2).

Regarding claim 7, the combined invention of Raby and Albertelli discloses wherein a moment is generated with respect to at least one predefined point (see Raby – col. 7, lines 35-40 – point P).

Regarding claims 15, 28-30 and 33, these claims recite computer readable medium comprising computer executable program code to carry out the steps of claims 1-4 and 7. As

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cited in the rejection of claim 1, Raby discloses a computer and a computer readable medium is an inherent requirement of a computer.

7. Claims 5-6, 8-11, 31-32 and 34-37 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

**Examiner note:** Examiner has cited particular columns and line numbers in the references as applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings for the art and are applied to the specific limitations within the individual claim, other passages and figures may be applied as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references entirely as potential teachings all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the examiner.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Manav Seth whose telephone number is (571) 272-7456. The examiner can normally be reached on Monday to Friday from 8:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vikram Bali, can be reached on (571) 272-7415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

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applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Manav Seth/  
Primary Examiner, Art Unit 2624  
December 30, 2009